Idaho Department of Environmental Quality

Draft §401 Water Quality Certification

October 21, 2008

NPDES Permit Number: **IDR05-0000** Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP)

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC Section 1341 (a)(1), and Idaho Code §§ 39-101 et.seq., and 39-3601 et.seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollution Discharge Elimination System (NPDES) permits and issue a water quality certification decision.

DEQ certifies that if the permittees comply with the terms and conditions imposed by the above-referenced permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharges will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, including the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02) and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations or permits, including without limitation, the approval from the owner of a private water conveyance system, if one is required, to use the system in connection with the permitted activities.

CONDITIONS THAT ARE NECESSARY TO ASSURE COMPLIANCE WITH WATER QUALITY STANDARDS

pH Benchmark Concentrations and Effluent Limitations

The MSGP proposes a pH range of 6.0 – 9.0, which does not comply with Idaho WQS (IDAPA 58.01.02.250.01.a). Therefore, numeric effluent limitations and benchmark monitoring concentrations for pH shall be 6.5 – 9.0.

Numeric Effluent Limitations

Numeric effluent limitations for arsenic (Sector K), chromium (Sector K), and zinc (Sectors K and L) exceed applicable WQS. Additionally, depending on the pH of the receiving water, there is a potential for ammonia effluent limitations (Sectors K and L) to exceed the acute water quality criterion. However, DEQ believes it is inappropriate to set numeric effluent limitations equivalent to state WQS at this time due to the lack of sufficient data to determine if the discharge causes or contributes to a WQS violation. Instead, DEQ requires that whenever the discharge exceeds applicable WQS for these

parameters (see Table 1 below), the permittee must take corrective action(s), document those corrective actions in the Storm Water Pollution Prevention Plan (SWPPP), conduct follow-up monitoring, and report the exceedances(s) in accordance with the MSGP and applicable conditions of this certification.

Table 1. Idaho water quality criteria for specific parameters.

Parameter	**Criterion (mg/L)**
Arsenic	0.05
Chromium[1]	0.016
Zinc	hardness dependent[2]
Ammonia	pH dependent[3]

1. The listed criterion is for Chromium VI; however, DEQ recognizes that total chromium is more frequently evaluated. If total chromium concentrations exceed this concentration, then the permittee must evaluate chromium VI concentrations in the follow up sampling.
2. The zinc criterion is hardness-dependent. Please refer to Table 2 for the calculations. The permittee must collect receiving water hardness data in order to determine the applicable criterion and assess whether follow up monitoring is required.
3. The acute ammonia criterion is dependent upon pH. The permittee must collect receiving water pH data in order to determine the applicable criterion and assess whether follow up monitoring is required. The equation to calculate the criterion maximum concentration (CMC) for ammonia is:
   $$CMC = (0.275 / (1 + 10^{(7.204 - pH)})) + (39 / (1 + 10^{(pH - 7.204)}))$$
   DEQ has a tool for calculating the ammonia criterion available on-line at:
   http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/standards.cfm#more

Numeric Effluent Limitation Monitoring

Given the inherent variability in storm water discharges, monitoring for parameters with numeric effluent limitations must occur twice per year. If, during the first year of the permit, results from the semi-annual monitoring events comply with the numeric effluent limitations and applicable water quality criteria, then facilities may reduce the monitoring frequency to once per year.

Benchmark Concentrations

The MSGP proposes benchmark concentrations for hardness-dependent metals based on ranges of hardness values (in 25 mg/L increments) for the following parameters: cadmium, copper, lead, nickel, silver, and zinc. While benchmark values are not enforceable limits, exceedances trigger corrective actions as well as additional monitoring. As such, DEQ believes it is prudent to undertake corrective actions and additional monitoring when discharges are in concentrations greater than the water quality criteria.

In order to comply with IDAPA 58.01.02.400.01 to the maximum extent practicable, the appropriate benchmark values for hardness dependent metals shall be calculated using equations listed in Table 2 (IDAPA 58.01.02.210.02). For purposes of calculating benchmark values, the minimum and maximum hardness values allowed are 25 mg/L and 400 mg/L, respectively.

Table 2: Calculation of Benchmark Values (total recoverable) for Hardness-Dependent Metals

PARAMETER	Benchmark value (µg/L)
Cadmium[1]	= [EXP$^{(0.8367*LN(hardness) -3.56)}$]/Acute Conversion Factor[2]
Copper	= EXP$^{(0.9422*LN(hardness) – 1.464)}$
Lead	= EXP$^{(1.273*LN(hardness) – 1.46)}$
Nickel	= EXP$^{(0.846*LN(hardness) + 2.255)}$
Silver	= EXP$^{(1.72*LN(hardness) – 6.52)}$
Zinc	= EXP$^{(0.8473*LN(hardness) + 0.884)}$

EXP = base e exponential function; LN = natural logarithm

1. The calculation for the acute cadmium criterion is currently undergoing review at EPA.
2. The Acute Conversion Factor (ACF) for cadmium is hardness dependent, and can be calculated using the following equation:

ACF = 1.136672 – [(LN hardness)(0.041838)]

DEQ has a tool for calculating the appropriate water quality criteria for hardness dependent metals available on-line at: http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/standards.cfm#more.

The MSGP contains a benchmark concentration of 0.15 mg/L for arsenic (Subsectors A2, G2, and K1), which exceeds Idaho water quality criteria established for the protection of human health. In order to comply with IDAPA 58.01.02.400.01 to the maximum extent practicable, the appropriate benchmark value for arsenic shall be 0.05 mg/L.

In addition, the MSGP contains a benchmark concentration of 0.64 mg/L for antimony (Subsector G2), which exceeds the criterion applicable to waters designated for domestic water supply. If the receiving water body is designated for domestic water supply use, then the appropriate benchmark concentration shall be 0.0056 mg/L.

Finally, the acute water quality criterion for ammonia is dependent upon pH. The MSGP contains a benchmark concentration of 10 mg/L for ammonia (Subsector K1 and Sector S), which may exceed the water quality criterion in receiving waters with pH values greater than 7.7. The permittee must collect pH data in the receiving water and calculate a benchmark concentration utilizing the equation in Footnote 3 of Table 1.

Follow-up Monitoring for Benchmark Concentrations

If all four quarterly samples do not exceed the benchmark, then the permittee is not required to conduct any additional quarterly monitoring for that parameter. If any of the four quarterly samples exceed the benchmark, then the permittee must follow the additional requirements in Section 6.2.1.2 (e.g. review control measures and conduct additional sampling).

Monitoring of Discharges to Impaired Waters with an applicable WLA in an EPA-approved TMDL

In order to waive any additional monitoring as allowed by the permit, the permittee must also include documentation in their SWPPP that the pollutant(s) of concern is not

expected to be present in the discharge. If such documentation can not be made, then the permittee must conduct annual monitoring for the duration of the permit.

Storm Water Pollution Prevention Plan (SWPPP) Availability
If requested by DEQ, the permittee must submit a copy of the SWPPP to DEQ within fourteen (14) days of the request.

Reporting
Copies of NOIs for discharges to impaired waters must be sent to the appropriate DEQ regional office. If you need up to date information or clarification regarding impaired waters and approved or established TMDLs, contact the appropriate regional DEQ office.

When monitoring results exceed benchmark values or applicable water quality criteria, the following information must be sent to the appropriate regional DEQ office within thirty (30) days of receipt of laboratory results:

- Your permit identification number;
- Facility name, address, and location;
- Name of receiving water;
- Date and location of sample collection;
- Analytical results; and
- An appropriate contact name and phone number.

In addition, copies of Exceedance Reports (which are prepared for numeric effluent limitation exceedances) must be sent to the appropriate regional DEQ office within thirty (30) days of receipt of laboratory results. Contact information for DEQ offices can be obtained from http://www.deq.idaho.gov/about/contact_us.cfm.

CONDITIONS THAT ARE NECESSARY TO ASSURE COMPLIANCE WITH OTHER APPROPRIATE REQUIREMENTS OF STATE WATER QUALITY LAW

Reporting of Discharges Containing Hazardous Materials or Oil
Any unauthorized discharges containing hazardous materials or oil must be reported to the Idaho State Communications Center (1-800-632-8000) or to the appropriate DEQ Regional Office (IDAPA 58.01.02.850).

Regional Office	**Phone #**	**Regional Office**	**Phone #**
Boise	(208) 373-0550	Lewiston	(208) 799-4370
Coeur d'Alene	(208) 769-1422	Pocatello	(208) 236-6168
Idaho Falls	(208) 528-2650	Twin Falls	(208) 736-2190

Sector L – Storm water and Leachate
Storm water entering a landfill must be managed as leachate, including run off from areas that have received daily cover which may have contacted waste material, and thus is not eligible for coverage under the MSGP (40 CFR 258.26(a)(2); Municipal Solid Waste Landfill Criteria Technical Manual, EPA 530-R-93-017, 1998). Storm water from a

closed landfill or from areas of the landfill that have received final cover is not leachate and may be covered under the MSGP.

ALTERNATIVE LIMITATIONS

Benchmark Values
The benchmark value for selenium (Sectors G, K) is equal to 0.005 mg/L, which is equivalent to the chronic water quality criterion. Given storms are discrete events of relatively short duration, DEQ believes it is more appropriate to utilize the acute water quality criteria as a benchmark values. Therefore, benchmark values for selenium can be set equal to the acute criterion of 0.02 mg/L and still comply with Idaho WQS.

ADDITIONAL CONDITIONS

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to §401.

RIGHT TO APPEAL FINAL CERTIFICATION

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5), and the Rules of Administrative Procedure Before the Board of Environmental Quality, IDAPA 58.01.23, within 35 days of the date of the final certification.

Questions regarding the actions taken in this final certification should be directed to Johnna Sandow, State Office IDEQ at (208) 373-0163 or Johnna.Sandow@deq.idaho.gov.

Barry N. Burnell
Administrator
IDEQ Water Quality Division